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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/616,090	07/08/2003	Douglas M. Baney	10020766-1	9657

7590 05/06/2005  
AGILENT TECHNOLOGIES, INC.  
Legal Department, DL 429  
Intellectual Property Administration  
P.O. Box 7599  
Loveland, CO 80537-0599

EXAMINER

CHIEM, DINH D

ART UNIT PAPER NUMBER

2883

DATE MAILED: 05/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

<b>Office Action Summary</b>	<b>Application No.</b> 10/616,090	<b>Applicant(s)</b> BANEY, DOUGAS M.	
	<b>Examiner</b> Erin D. Chiem	<b>Art Unit</b> 2883	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 3/28/05.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) 11-49 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

This office action is in response to Applicant's election of requirements of restriction filed on March 28, 2005. The Applicant elected Invention I, drawn to claims 1-10, without traverse. Claims 11 – 49 are withdrawn from consideration for the purpose of examining current application.

#### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 2, 4, 5 and 7-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Ariel et al. (US 20030068150 A1). Ariel et al. teach a method of coupling a photonic-crystal fiber to glass or silica rods at both ends [0075]. In further teaching, Ariel et al. disclose using fusion splicing to couple the end faces since electric arc-generated heat may be used to cause air channels 156 to collapse [0086]. Regarding the recitation “adapted to introduce said selective absorption medium into said plurality of voids” were not weighted heavily into consideration due to the broad terms that do not further limits the claim. The recitation “adapted to introduce” does not definitively define nor further narrowing the claim, such recitation is interpreted as a possibility. Under such interpretation, Ariel et al. have met the limitation since the photonic-crystal fibers contain voids within the core that is “adapted to introduce” air. Regarding claim 7, the MPEP permits Applicants to be his/her own lexicographer, therefore, the terms “holey fiber

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optic cable” is not objected to. However, Applicant does not distinguish the difference in the Specification between the holey fiber wave-guide and the holey fiber optic cable (Specification, page 6 line 12 – page 7 line 3); therefore, Ariel et al. have also met the limitation.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 3 rejected under 35 U.S.C. 103(a) as being unpatentable over Ariel et al. in view of Filhaber et al. (US 2003/0081906 A1).

7. Ariel et al. teach a holey waveguide coupled to a first and second waveguide on each end, but do not teach utilizing a light-transmitting adhesive.

8. Filhaber et al. disclose as prior art that bonding of optical waveguide fibers to photonic or optical components such as a second optical waveguide fiber, lens or lens arrays typically utilize adhesive bonding ([0003]) for the purpose of easy coupling without deforming the waveguides such as fusing two waveguides made of two different materials that are not adaptive to melt at the same temperature.

9. Since Ariel et al. and Filhaber et al. are both from the same field of endeavor, the purpose disclosed by Filhaber et al. would have been recognized in the pertinent art of Ariel et al.

10. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to alternatively couple the holey waveguide using optical adhesive

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instead of other coupling method when manufacturing requirements are not stringent since adhesives are simpler tools for coupling optical components.

11. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ariel et al. Ariel et al. teach a holey waveguide coupled to a first and second waveguide on each end, but do not explicitly teach first wave-guide comprises a first optic cable and second waveguide comprises a second fiber optic cable. Since the Specification is silent in the description of the elements that comprises a fiber optic cable, the Examiner interprets the fiber optic cable known to one having ordinary skill in the art to be a bundle of optical fibers. Therefore, such modification is simply to supply a strong input signal or high bandwidth coupling to the holey waveguide, since it has been held that mere duplication of essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

12. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ariel et al. in view of Hoo et al. (2002, Opt. Eng. 41).

13. Ariel et al. teach a holey waveguide coupled to a first and second waveguide on each end, but do not but do not explicitly teach coupling a light source signal to the holey waveguide or couple the signal from the holey waveguide to a detector.

14. Hoo et al. teach in their experimental setup having a tunable laser (Fig. 1 (a) ) as the light source coupled to the microstructure fiber, more commonly known as holey waveguide, and the microstructure fiber is coupled to the optical power meter. Clearly, there exists a mean to detect the optical signal received from the microstructure fiber in order to determine the optical power.

15. Since Ariel et al. and Hoo et al. are both from the same field of endeavor, the purpose disclosed by Hoo et al. would have been recognized in the pertinent art of Ariel et al.

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16. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to follow Hoo et al. experimental set up and in combination with Ariel et al. teaching of fusion coupling to create any basic usable optical device; an input (light source), an operation (holey waveguide adapted to introduce known gas or liquid into the voids) by passing light through, and output (optical power meter and computer) to determine the testing specimen.

*Conclusion*

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The related art is to demonstrate the similar device and method for using holey waveguide as a sensing device (Monro et al., Jensen et al., and Fajardo et al. (US 6,652,163 B2).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erin D. Chiem whose telephone number is (571) 272-3102. The examiner can normally be reached on Monday - Thursday 9AM - 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on (571) 272-2415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Frank G. Font  
Supervisory Patent Examiner  
Technology Center 2800

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Erin D Chiem  
Examiner  
Art Unit 2883

Frank G. Font  
Supervisory Primary Examiner  
Technology Center 2800